

## THE LIQUIDITY TREND ANALYSIS OF IRON AND STEEL INDUSTRY IN INDIA

**Dr. K. VENKATACHALAM<sup>1</sup> & D. SARAVANAKUMAR<sup>2</sup>**

<sup>1</sup>Assistant Professor, Department of Commerce, PGP College of Arts and Science, Namakkal, Tamil Nadu, India

<sup>2</sup>Research Scholar, Department of Commerce, PGP College of Arts and Science, Namakkal, Tamil Nadu, India

### ABSTRACT

*The iron and steel industry in India contributes substantially to the economic well-being of a nation. The industry caters employment opportunities to the more number of people and also fetching more foreign exchange to the Indian coffers. As such, it is paramount importance to track the health of the industry. This is because, the health of the industry, if it is good, is also good for the nation. One of the parameters to gauge the health of the industry is to study its liquidity position. Keeping this in focus the present paper study the liquidity trend of iron and steel industry in the last fifteen years i. e., from the year 2003-04 to 2017-18. In this study comparative liner regression and trend analysis techniques have been employed to know the financial soundness of iron and steel firms. The result shows the inadequate current assets, poor working capital management and profitability margin due to volatility in iron and steel market and wide fluctuations in raw material prices. The liquidity position is almost similar in all the iron and steel firms, as the result indicates.*

**KEYWORDS:** *Coffers, Employment, Foreign Exchange, Profitability & Soundness*

**Received:** Jun 21, 2019; **Accepted:** Jul 12, 2019; **Published:** Jul 31, 2019; **Paper Id.:** IJHRMRAUG201915

### 1 INTRODUCTION

The Indian Iron and Steel industry plays a major role in the creation of sound infrastructure. By doing so, the industry helps in India's economic development. A thermo-reading of the financials of the firms in the industry will show how these companies are progressing in value creation to the nation in general and shareowners, in particular. For, a good financial liquidity of these companies is a must for the country's sound economy. Hence, this study aims at analysing the liquidity trend of the companies in the last fifteen years from 2003-04 to 2017-18 so as to infer the state of the present liquidity trend. The considered financial variables for the study were gross working capital, short term liabilities, net working capital and owners' equity. These variables were analysed through the application of techniques statistical such as, average, standard deviation, co-efficient of variation, annual growth rate, compound annual growth rate, trend analysis and linear regression. The findings of the study navigate all the stakeholders towards the present liquidity and trend position of the companies.

### 2 AIMS OF THE STUDY

- To analyse the liquidity position and trends of Gross Working Capital (current assets), short term liabilities (current liabilities) and net working capital.
- To measure the solvency position and trends of owners' equity (net worth).

### 3 REVIEW OF LITERATURE

The review of literature gives the researcher that direction through which the present study is being carried on. Through this review, the researcher is equipped with the right methodology and procedures. Also, the review

helps the researcher in analysing the data rationally and logically, keeping the mind the aims of the study. Towards this end, the researcher thoroughly reviewed the following Indian and foreign literature, related to the present study.

**Eljelly. A (2004):** In his study established the link between profitability and liquidity of the companies in Saudi Arabia. He concluded that gross working capital and short term liabilities are to be properly managed, so as to free the companies from excess or inadequate investments in working capital. He also stressed that cash management and its conversion are to be efficiently followed in order to have sound liquidity apart from managing the other assets.

**Cai and Zhang (2005),** made an attempt to study the effect of leverage in borrowed capital. They found out that a higher leverage may affect the firm's borrowing capacity, thereby prevent the firm from future investments. Further, they also said that, firms profitability and liquidity depends more on long term borrowings than on short term borrowings. They also highlighted that firm's leverage will not affect the shareholders future returns.

**Nandi Chandra Kartik (2012):** He studied the trend position in liquidity and its effect on profitability. Towards this end, he established a liner relationship between liquidity and profitability by applying multiple regression model. He concluded that just and adequate amount of working capital is always needed to maintain a sound liquidity and profitability in companies.

**Tiwari (2013):** studied the system of management of working capital in cement in industry in India. He stated that the industry has been suffering from poor working capital management over the years. He suggested that the industry should formulate clear policies so as to have good working capital management.

**Arab, Masoumi and Brati (2015):** studied the connection the liquidity and productivity of Indian steel companies. By using ANOVA technique, the analysed the ten years financial data and came out with conclusion that there is no difference in liquidity and productivity among the firm's in steel industry in India.

#### 4 METHODOLOGY OF THE STUDY

In this study the researcher selected five leading iron and steel firms operating in India i. e., (i) Tata Steel Ltd, (ii) Steel Authority of India Limited, (iii) JSW Steel Limited, (iv) Jindal Steel and Power Limited and (v) Steel Exchange of India Limited. The present study analysed the liquidity trend of these companies in the last fifteen years i.e., from 2003-04 to 2017-18. The secondary data was extensively used in this study and auditor financial statements of the last fifteen years have been consolidated as secondary data. To support present study, the results of the earlier studies in the relevant area, journal, magazines and government publications have also been extensively reviewed. For analysing the data, various accounting and statistical tools, such as accounting trend, average, measurement of deviation, annual growth rate, compound annual growth rate and liner regression have been appropriately applied, keeping in mind the rational requirements needed for the analysis.

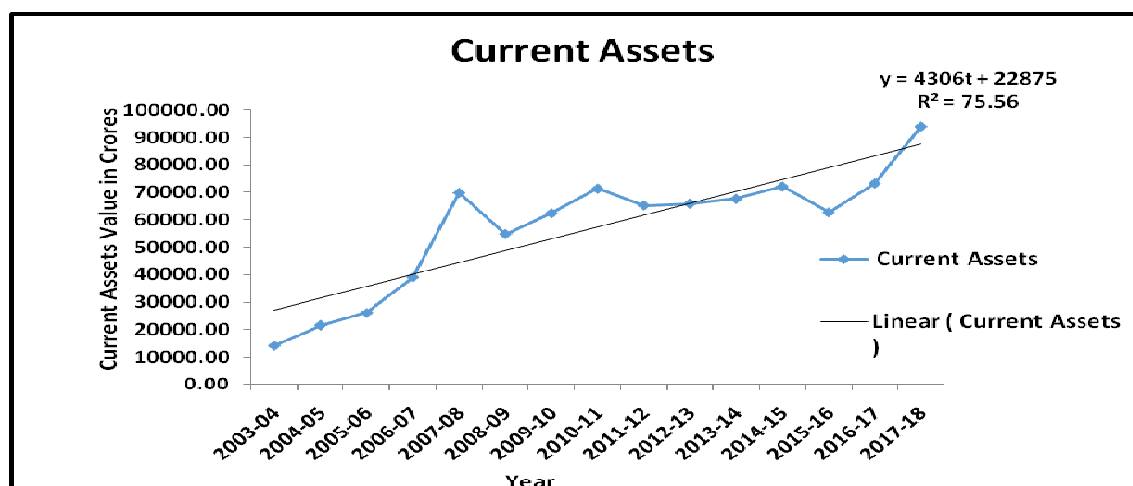
#### 5 ANALYSIS AND INTERPRETATION

From the table 1, it infers that the current assets of iron and steel industry has shown fluctuating trend throughout the analysis for all the years. The current assets of the industry have increased to Rs. 94,050.23 crores in 2017-18 has compared to Rs. 13,974.32 crores in the year 2003-04. This increase in terms of percentage was 673.02. The mean value of current assets of iron and steel industry was Rs. 57,326.25 Crores during the period of study. The annual and compound annual growth rate of current asses was 573.02 and 14.59 percent respectively. The actual current assets were less than the trend values

in all the years, except in the year 2017-18. The P- value of the F- statistics is less than 0.05. There exist a significant difference between the actual value of current assets and the trend values of current assets during the period of study.

**Table 1: Actual Value and Trend Value of Current Assets of Iron and Steel Industry in India**

Year	Actual value of Total Current Assets	Indices	Trend Value (Yc)	Difference
2003–04	13974.32	100.00	27181.37	-13207.05
2004–05	21479.01	153.70	31487.78	-10008.77
2005–06	25948.21	185.68	35794.20	-9845.99
2006–07	39030.42	279.30	40100.61	-1070.19
2007–08	69869.56	499.99	44407.02	25462.54
2008–09	54842.66	392.45	48713.43	6129.23
2009–10	62401.12	446.54	53019.84	9381.28
2010–11	71355.36	510.62	57326.25	14029.11
2011–12	65259.78	467.00	61632.66	3627.12
2012–13	65928.95	471.79	65939.07	-10.12
2013–14	67652.22	484.12	70245.49	-2593.27
2014–15	72133.99	516.19	74551.90	-2417.91
2015–16	62722.32	448.84	78858.31	-16135.99
2016–17	73245.63	524.14	83164.72	-9919.09
2017–18	94050.23	673.02	87471.13	6579.10
Mean	57326.25	Calculated $\alpha$ vales=22875, $\beta t$ =4306*t, $R^2$ =75.56, F test value is 38.11 and F test p value is 0.00* at 5% level of significant Result : Hypothesis $H_0$ is Rejected		
S. D	22302.86			
C. V (%)	38.91			
AGR (%)	573.02			
CAGR (%)	14.59			
<b>Source:</b> Computed *S- Significant at 5% level. NS-Not Significant				



**Chart No 1: Actual Value and Trend Value of Current Assets**

Table 2, shows that the trend value and actual value of current liabilities differed significantly. The mean value of current liabilities was Rs. 68,460.61 Crores. The standard deviation and co- efficient of variation values of current liabilities stood at 40,358.32 and 58.95 percent respectively. This indicates more fluctuations in current liabilities of iron and steel industry during the period of study. The AGR and CAGR were 584.51 and 14.73 percent respectively. The p value of F statistics is less than the 0.05. There exist a significant difference between the actual value of current liabilities and the trend values of current liabilities during the period of study.

Table 2: Actual Value and Trend Value of Current Liabilities of Iron and Steel Industry in India

Year	Actual Total Current Liabilities	Indices	Trend Value (Yc)	Difference
2003-04	18670.36	100.00	6116.29	12554.07
2004-05	19510.17	104.49	15022.62	4487.55
2005-06	23798.2	127.46	23928.95	-130.75
2006-07	24873.17	133.21	32835.29	-7962.12
2007-08	30459.74	163.13	41741.62	-11281.88
2008-09	47378.86	253.75	50647.95	-3269.09
2009-10	52740.84	282.46	59554.28	-6813.44
2010-11	69549.47	372.49	68460.61	1088.86
2011-12	80542.12	431.37	77366.95	3175.17
2012-13	83773.95	448.67	86273.28	-2499.33
2013-14	104673.8	560.61	95179.61	9494.15
2014-15	100045	535.81	104085.94	-4040.97
2015-16	116565.9	624.30	112992.28	3573.57
2016-17	126526.7	677.65	121898.61	4628.07
2017-18	127801.1	684.47	130804.94	-3003.86
Mean	68460.61	Calculated $\alpha$ vales=2790, $\beta t$ =8906*t, $R^2$ =97.40, $F$ test value is 487.12 and F test p value is 0.00* at 5% level of significant Result : Hypothesis $H_0$ is Rejected		
S. D	40358.32			
C. V (%)	58.95			
AGR (%)	584.51			
CAGR (%)	14.73			
<i>Source: Computed *S- Significant at 5% level. NS-Not Significant</i>				

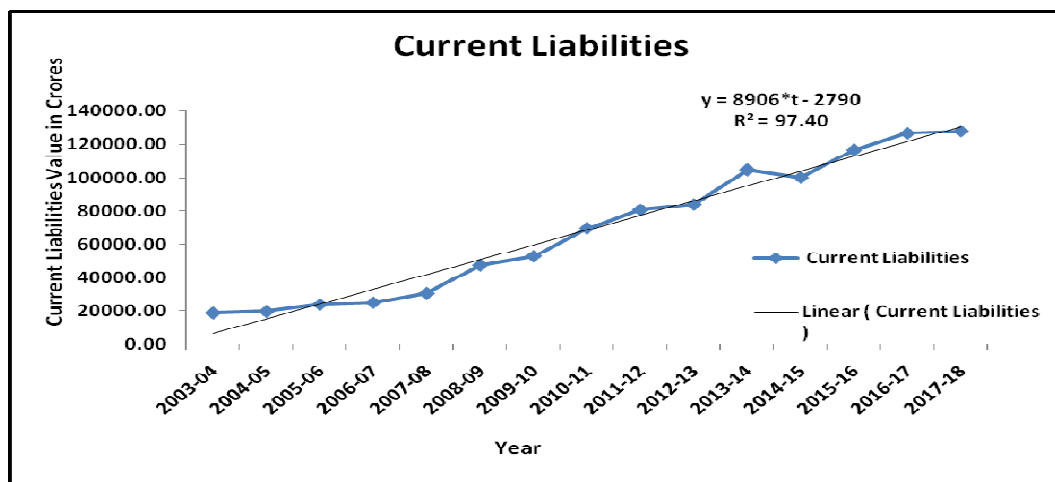


Chart No 2: Actual Value and Trend Value of Current Liabilities

Table 3: Actual Value and Trend Value of Working Capital of Iron and Steel Industry in India

Year	Actual Total Working Capital	Indices	Trend Value (Yc)	Difference
2003-04	-4177.85	100.00	20215.52	-24393.37
2004-05	2697.46	-64.57	17067.02	-14369.56
2005-06	3625.91	-86.79	13918.52	-10292.61
2006-07	16320.43	-390.64	10770.02	5550.41
2007-08	41691.45	-997.92	7621.52	34069.93
2008-09	11974.60	-286.62	4473.02	7501.58
2009-10	16927.69	-405.18	1324.52	15603.17
2010-11	11607.61	-277.84	-1823.98	13431.59
2011-12	-1488.22	35.62	-4972.48	3484.26
2012-13	-3229.54	77.30	-8120.98	4891.44

Table 3: Contd.,				
2013–14	-18625.99	445.83	-11269.48	-7356.51
2014–15	-13628.50	326.21	-14417.99	789.49
2015–16	-36339.92	869.82	-17566.49	-18773.43
2016–17	-37765.08	903.94	-20714.99	-17050.09
2017–18	-16949.79	405.71	-23863.49	6913.70
Mean	-1823.98	Calculated $\alpha$ vales=23364, $\beta t$ =3148.50*t, $R^2$ =45.23, $F$ test value is 10.74 and $F$ test p value is 0.00* at 5% level of significant Result: Hypothesis $H_0$ is Rejected.		
S. D	20936.26			
C. V (%)	-1147.83			
AGR (%)	305.71			
CAGR (%)	10.52			
<b>Source:</b> Computed *S- Significant at 5% level				

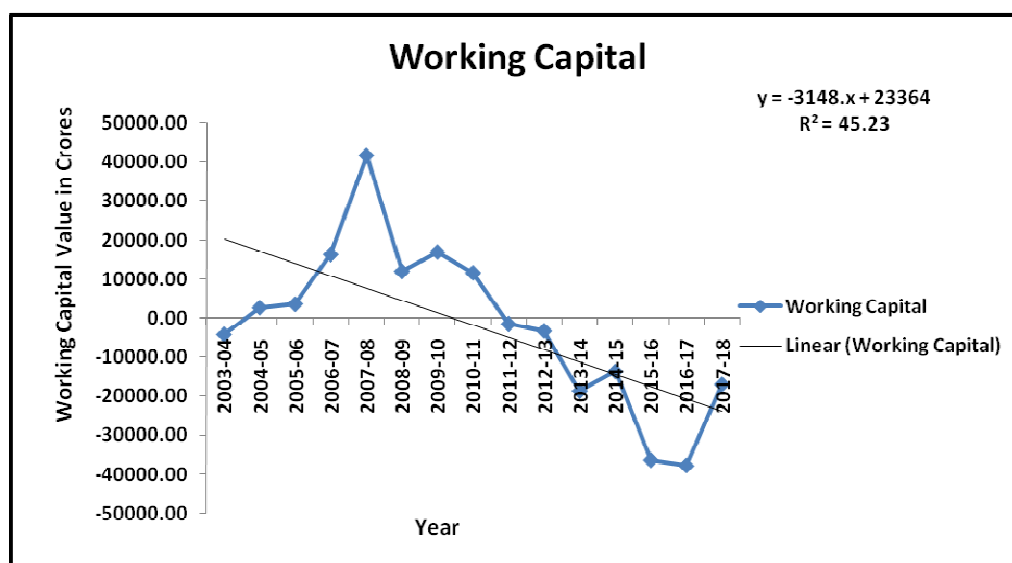


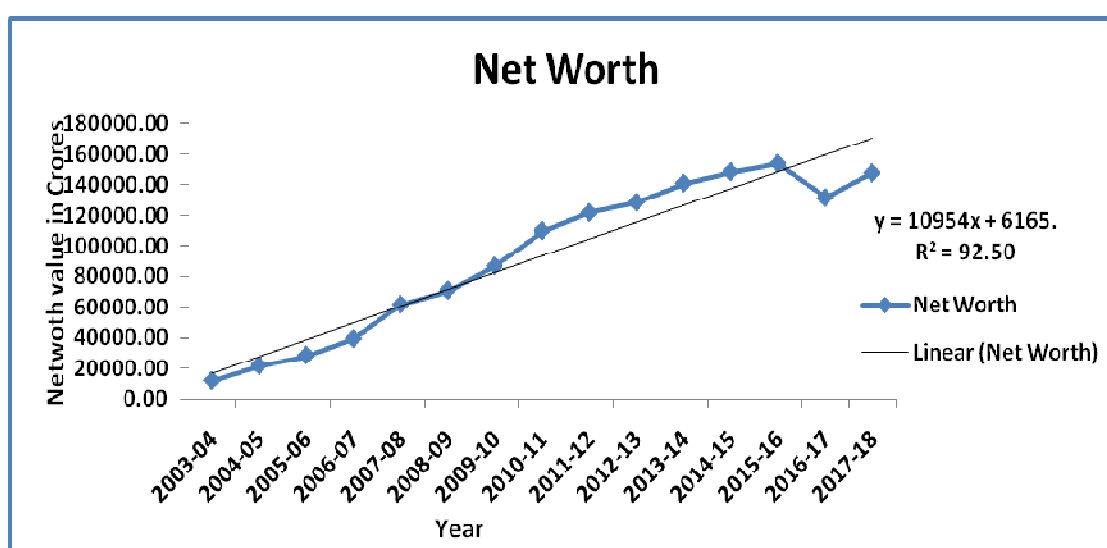
Chart No 3: Actual Value and Trend Value of Working Capital

Table 3 shows the actual working capital was less than the trend value. There were negative working capital in the year 2003-07, 2011-12 to 2017-18 also. It indicates during the years the current liabilities more than the current assets. The average working capital also negative trend. The annual growth rate and compound annual growth rate were 305.71 and 10.52 percent respectively. The P- value of the F- statistics is less than 0.05, there exist a significant difference between the actual value of working capital and the trend value of working capital. Hence, null hypothesis is rejected.

Table 4: Actual Value and Trend Value of Net Worth of Iron and Steel Industry in India

Year	Actual Total Net Worth	Indices	Trend Value (Yc)	Difference
2003–04	11917.97	100.00	17119.29	-5201.32
2004–05	21856.64	183.39	28073.81	-6217.17
2005–06	28580.84	239.81	39028.32	-10447.48
2006–07	39365.77	330.31	49982.83	-10617.06
2007–08	61861.87	519.06	60937.35	924.52
2008–09	71169.49	597.16	71891.86	-722.37
2009–10	87069.19	730.57	82846.37	4222.82
2010–11	110128.32	924.05	93800.89	16327.43

Table 4: Contd.,				
2011–12	121998.46	1023.65	104755.40	17243.06
2012–13	128795.93	1080.69	115709.91	13086.02
2013–14	141474.84	1187.07	126664.42	14810.42
2014–15	148737.20	1248.01	137618.94	11118.26
2015–16	154170.07	1293.59	148573.45	5596.62
2016–17	131830.51	1106.15	159527.96	-27697.45
2017–18	148056.18	1242.29	170482.48	-22426.30
Mean	93800.89	Calculated $\alpha$ vales=6165, $\beta$ t=10954*t, $R^2$ =92.59, $F$ test value is 162.60 and F test p value is 0.00* at 5% level of significant Result : Hypothesis $H_0$ is Rejected		
S. D	50910.77			
C. V (%)	54.28			
AGR (%)	1142.29			
CAGR (%)	19.72			
<b>Source:</b> Computed *S-Significant at 5% level. NS-Not Significant				



**Chart No 4: Actual Value and Trend Value of Working Capital**

The table 4 shows that the net worth of iron and steel industry has shown a fluctuating trend for all the years study period. In the year 2017-18, the net worth of the industry shows Rs. 1,48,056.18 crores, as compared to Rs.11,917.97 crores in the year2003-04. This showed a marked increase between these years, which in percent in terms was 1242.29. The mean value of net worth of iron and steel industry during the study period was Rs. 93,800.89 Crores. The annual and compound annual growth rate of net worth was 1142.29 and 19.78 percent respectively. The P- value of the F- statistics is less than 0.05, there exist a significant difference between actual value of net worth and trend value of net worth.

## 6 FINDINGS

- On the basis of overall analysis, the annual and compound annual growth rate of current asses was 573.02 and 14.59 percent respectively. The actual current assets were lower than the trend values in all the years, except 2017–18.
- The mean value of current liabilities was Rs. 68,460.61 Crores. The standard deviation and co- efficient of variation values were 40,358.32 and 58.95 percent respectively which indicates more fluctuation in current liabilities.

- The actual working capital lower than the trend value of working capital and there was also a negative working capital in the years 2003–07, 2011–12 to 2017–18.
- The net worth of iron and steel industry has shown a fluctuating trend throughout the study period.

## 7 SUGGESTIONS

- Based on the findings, the following suggestions were made to improve the liquidity position and financial health of iron and steel industry in India.
- Current assets' management needs proper attention, as current assets sees a marginal increase and current liabilities sees a phenomenal increase over the years.
- Working capitals of the companies are to be taken care of, as working capital sees a negative trend in all the years.
- Companies must strive hard to create the value for the shareholders through proper financial management, as there was an erosion of net worth during the period of study
- Companies must take steps to reduce the ballooning of debt, as more debt eats the profits considerably in the form of high interest costs.

## 8 CONCLUSIONS

The liquidity trend of the Iron and Steel Industry in India is not rosy. The foundations of Indian economy rest on the sound progress of the industry. The sound progress of the industry again rest on the healthy financials of its companies. Hence, the companies in the Iron and Steel Industry must take war-footing steps to restore the deteriorating liquidity trend and help the country to have a sound infrastructure and development.

## REFERENCES

1. Eljelly A (2004), "Liquidity- Profitability Trade Off-an Empirical Investigation in an Emerging Market". *International Journal of Commerce & Management* Volume: 14 No: 2 pp 48–61.
2. Cai, J, and Zhang, Z, (2005), *Capital Structure Dynamics and Stock Return*. *Journal of Finance*.
3. Nandi Chandra Kartik (2012), *Trends in liquidity management and their impact on profitability- a case study*, *Great Lakes Herald*, Volume 6, No 1, pp 16–30.
4. Tiwari, S. (2013), "A Study on Working Capital Management Efficiency in Indian Cement Industry", *International Journal of Management and Science*, Volume. 4(1), pp. 191–197.
5. Arab, R., Masoumi, S. S., and Brati, A. (2015). *Liquidity and efficiency Position of Steel Industry in India*. *Zenith International Journal of Business Economics & Management Research*, 5(1), 12–19.
6. Khan, M. and Jain, P. (2014). *Financial management*. New Delhi: McGraw Hill Education.
7. George, J. P., & Pramod, V. R. (2014). *An interpretive structural model (ISM) analysis approach in steel re rolling mills (SRRMS)*. *International Journal of Research in Engineering & Technology (IMPACT: IJRET)*, 2(4), 161–174.
8. Pandey IM (2007), *financial management*, vikas publishing house (p) Ltd, New Delhi, India.
9. Amalendu Bhunia (2011), "Short-Term Liquidity Management- A Study of Indian Steel Firms", *Indian Journal of Commerce & Management Studies*, Volume-II, Issue 4, May, pp. 151–166.

10. Meenakshi Anand (2014), "A Study of Financial Analysis in Textile Sector", *Journal of Business Management & Social Sciences Research*, Volume 3, No.6, June, pp. 80–86.
11. El-Bagoury, N. H., Omar, A. A., & El-Masry, A. L. I. A. *Effect of Semi-Solid Process on Microstructure and Mechanical Properties of Medium Carbon Steel Produced by Continuous Casting*.
12. Mohd Yameen and Asif Pervez (2014), "Impact of Liquidity, Solvency and Efficiency on Profitability of Steel Authority of India Limited", *International Journal of Research in Management, Economics and Commerce*, Volume. 06, Issue 09, September, pp. 25–31.
13. Alwan, H. H. *Synergistic Inhibition between Ampicillin Tri-Hydrate and KI for Corrosion of Carbon Steel in 1M HCl Solution*.